Supporting Information for
Manuscript ES04 8664M

The following spatial plots compare brute force and decoupled direct method (DDM) estimates of sensitivity coefficients and zero-out source contributions. They also compare sensitivity coefficients with aerosol and aqueous processes turned off in the Community Multiscale Air Quality (CMAQ) model.

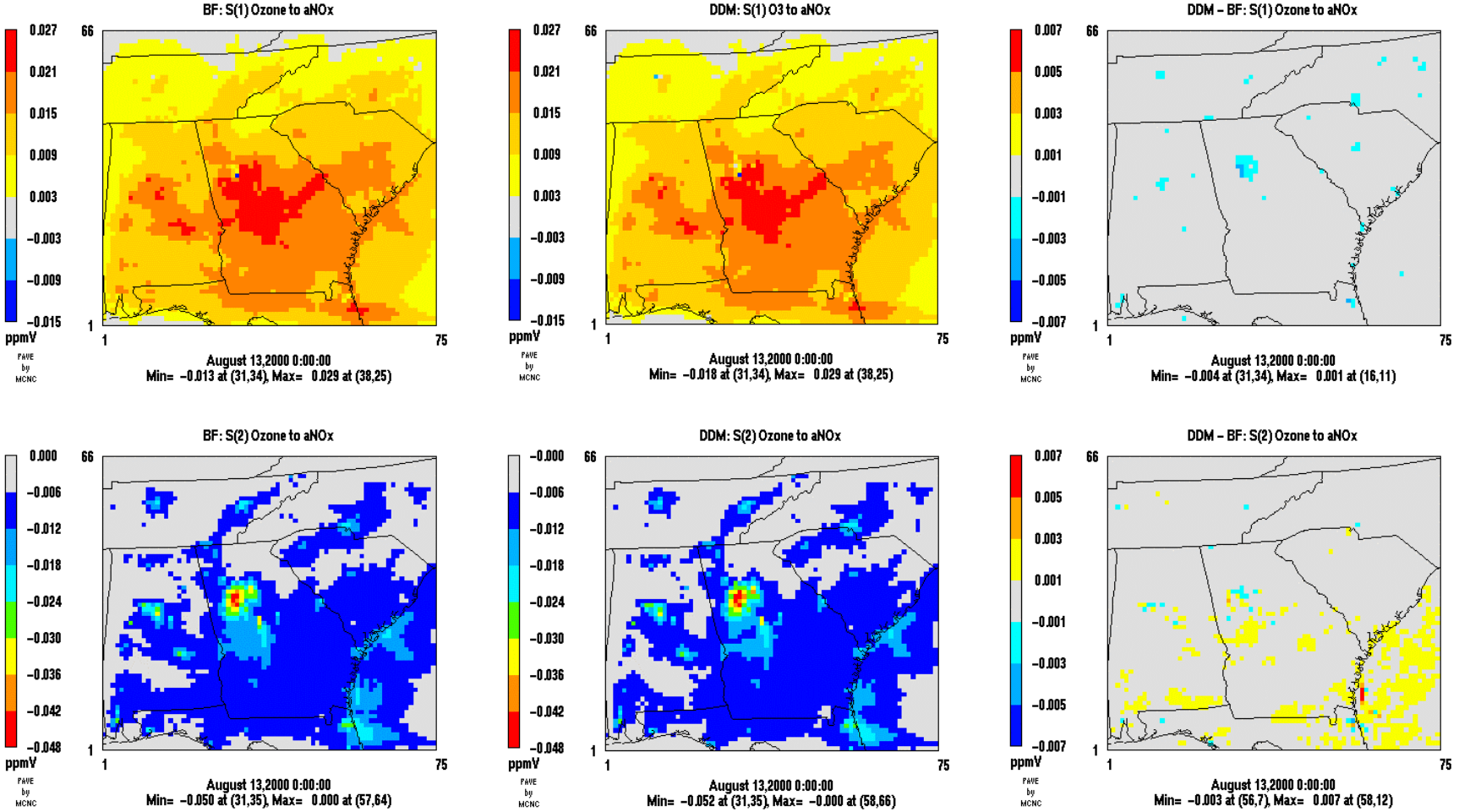

Figure S1: Episode-average first- (top) and second-order (bottom) sensitivity coefficients of daily 8-hour peak ozone to anthropogenic emissions of NO_x, as estimated by brute force (left), DDM (center), and the difference between DDM and brute force estimates (right).

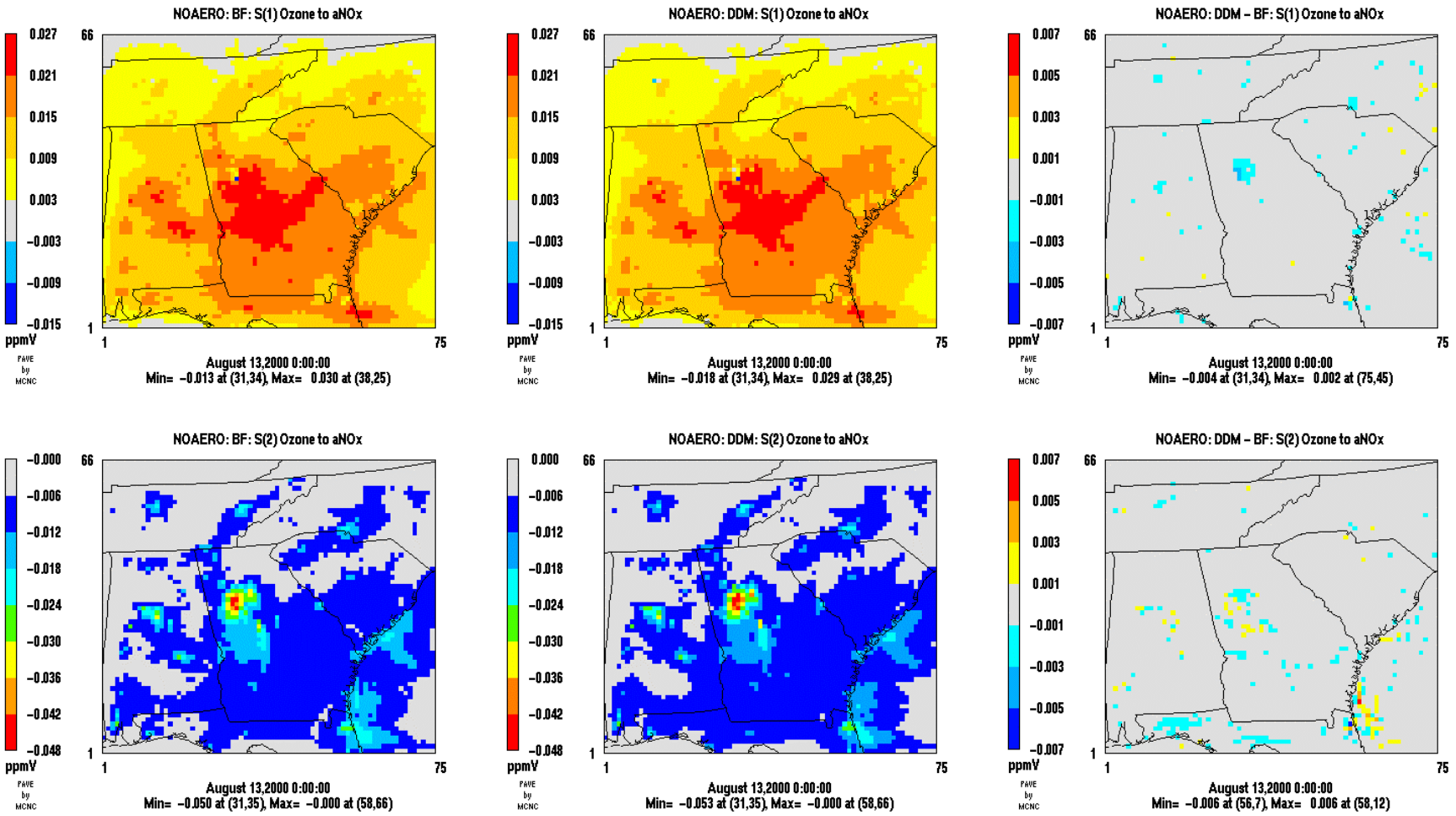

Figure S2: As in Figure S1, except computed with aerosol and aqueous chemistry processes turned off in CMAQ.

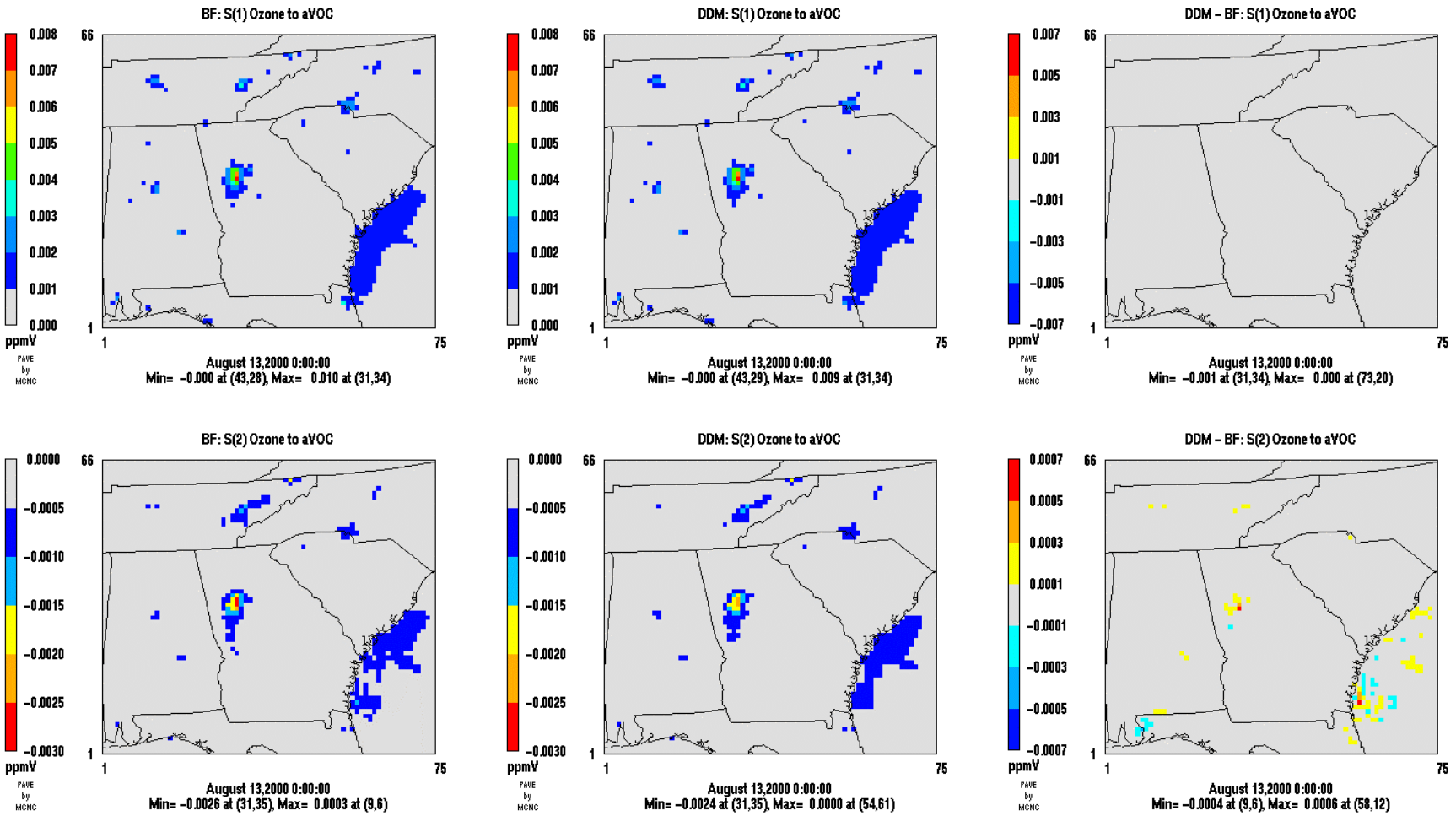

Figure S3: As in Figure S1, for sensitivity coefficients to anthropogenic VOC emissions.

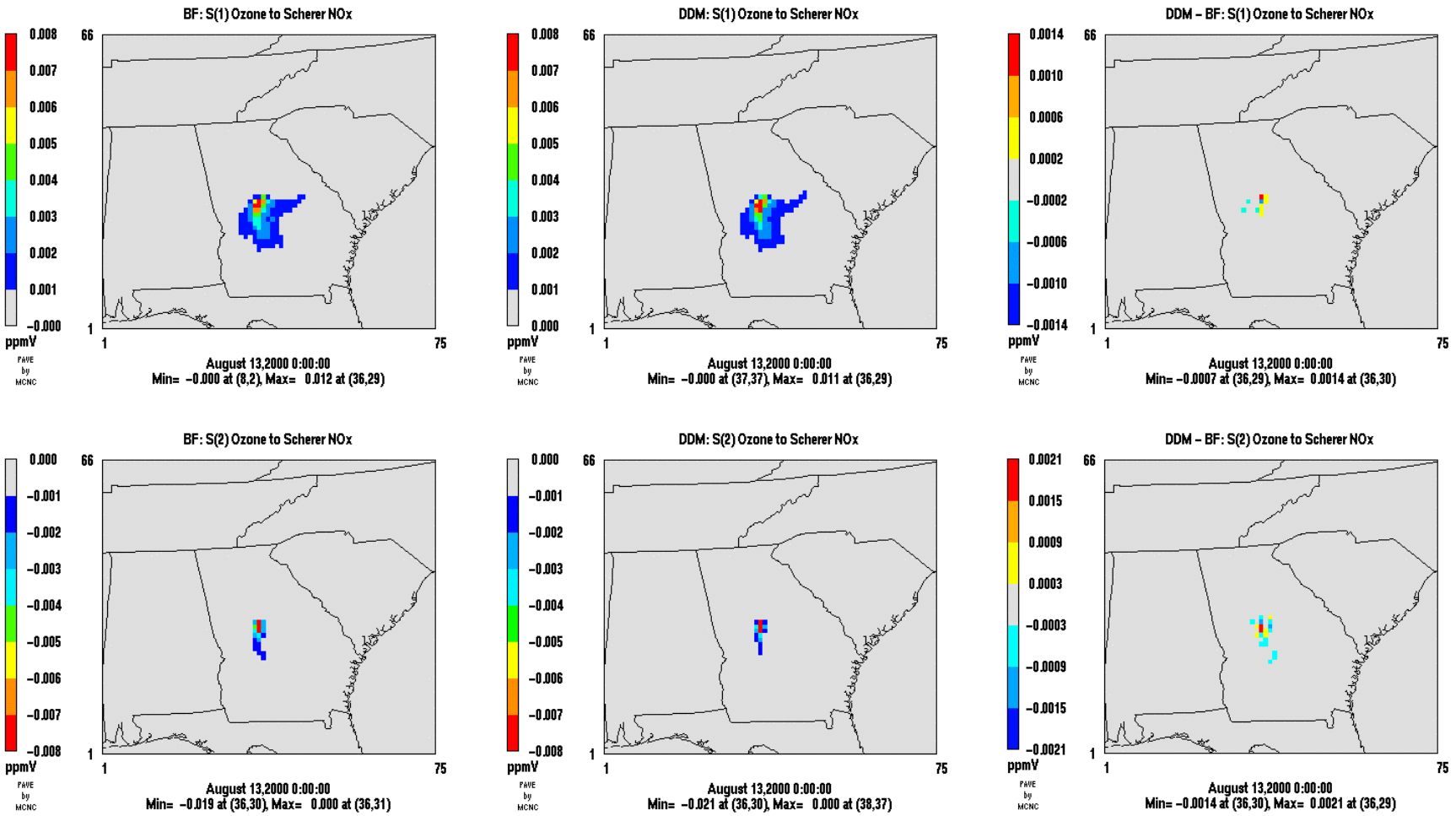

Figure S4: As in Figure S1, for sensitivity coefficients to Plant Scherer NO_x emissions.

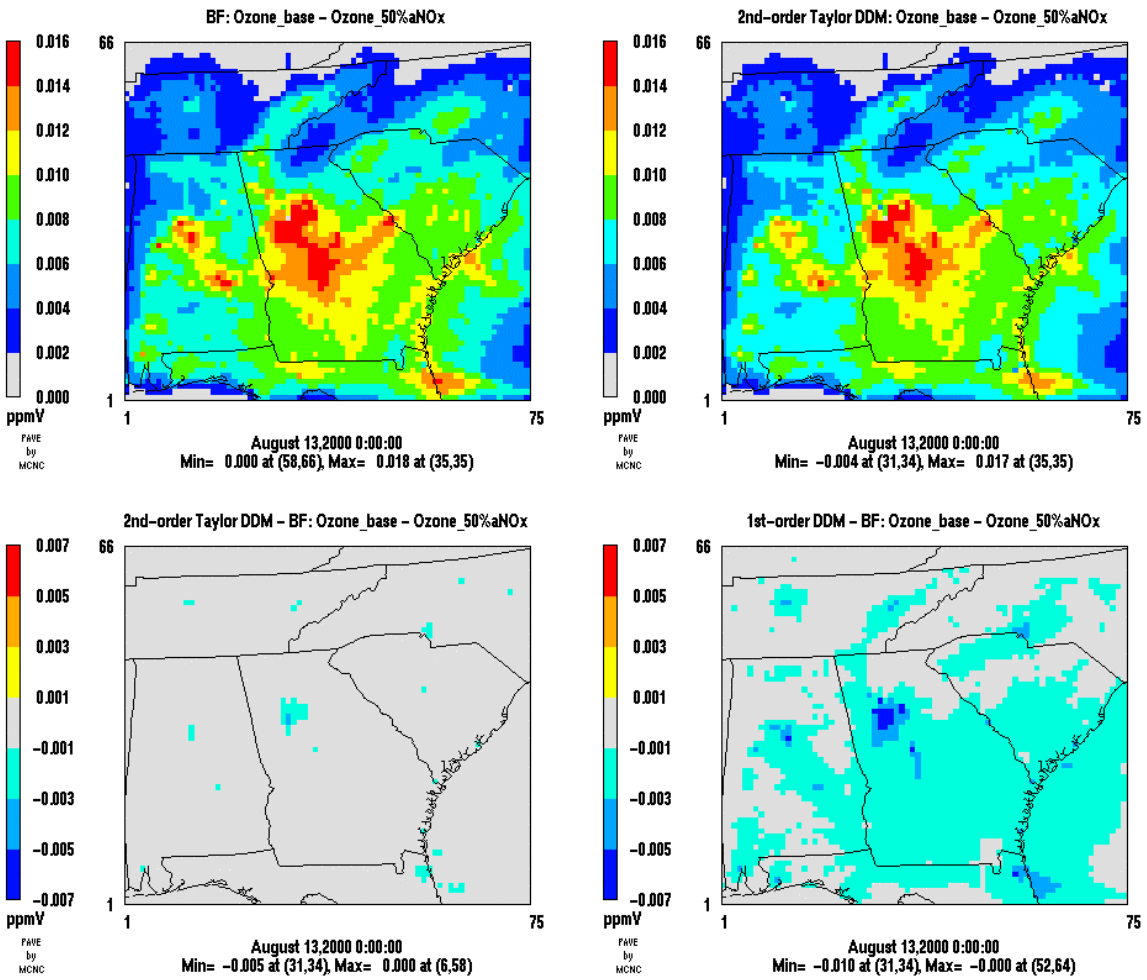

Figure S5: Episode-average reduction in daily 8-hour peak ozone due to a 50% reduction in anthropogenic NO_x emissions, as estimated by brute force (top left) and a second-order Taylor expansion of DDM coefficients (top right), and the difference between DDM and brute force for a second-order expansion (bottom left) and a first-order-only expansion (bottom right).

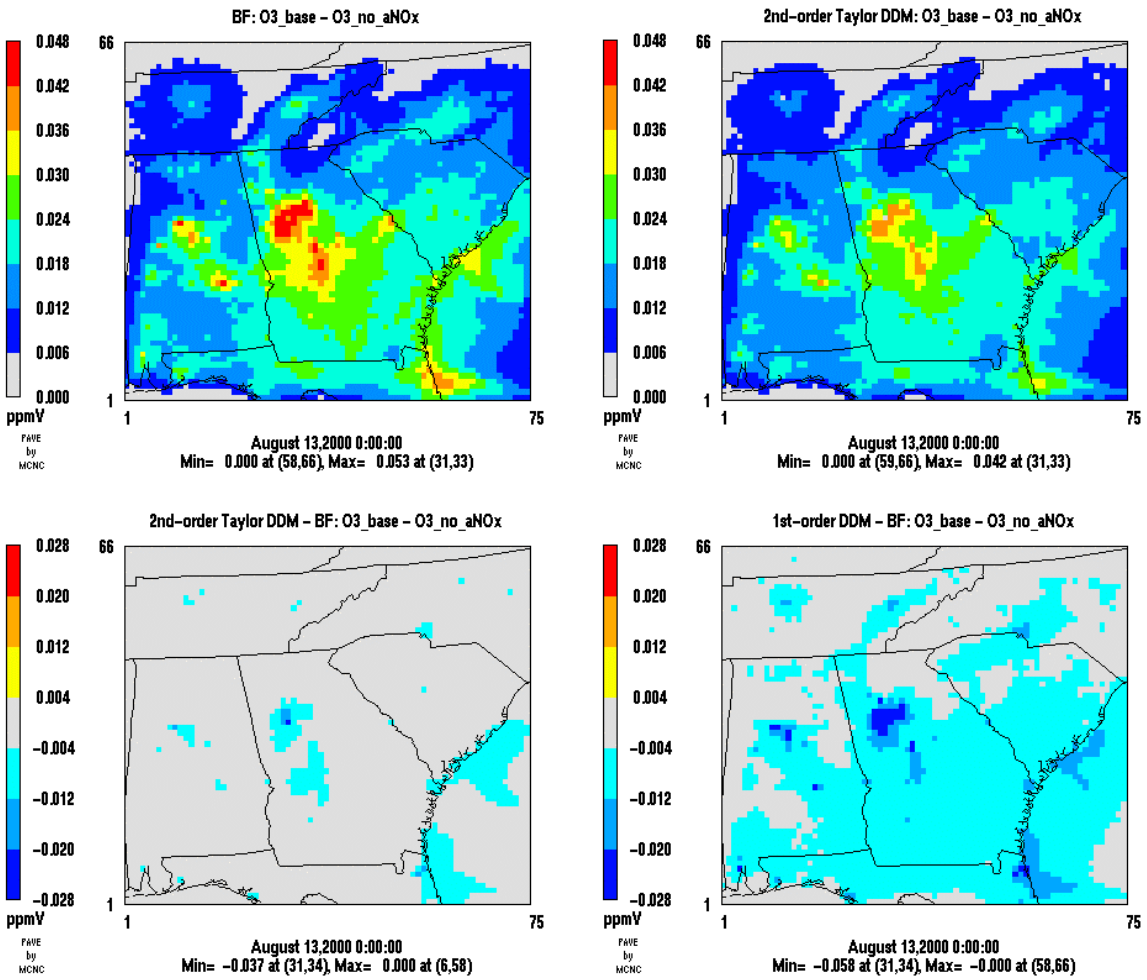

Figure S6: As in Figure S5, for a 100% reduction in anthropogenic NO_x emissions.

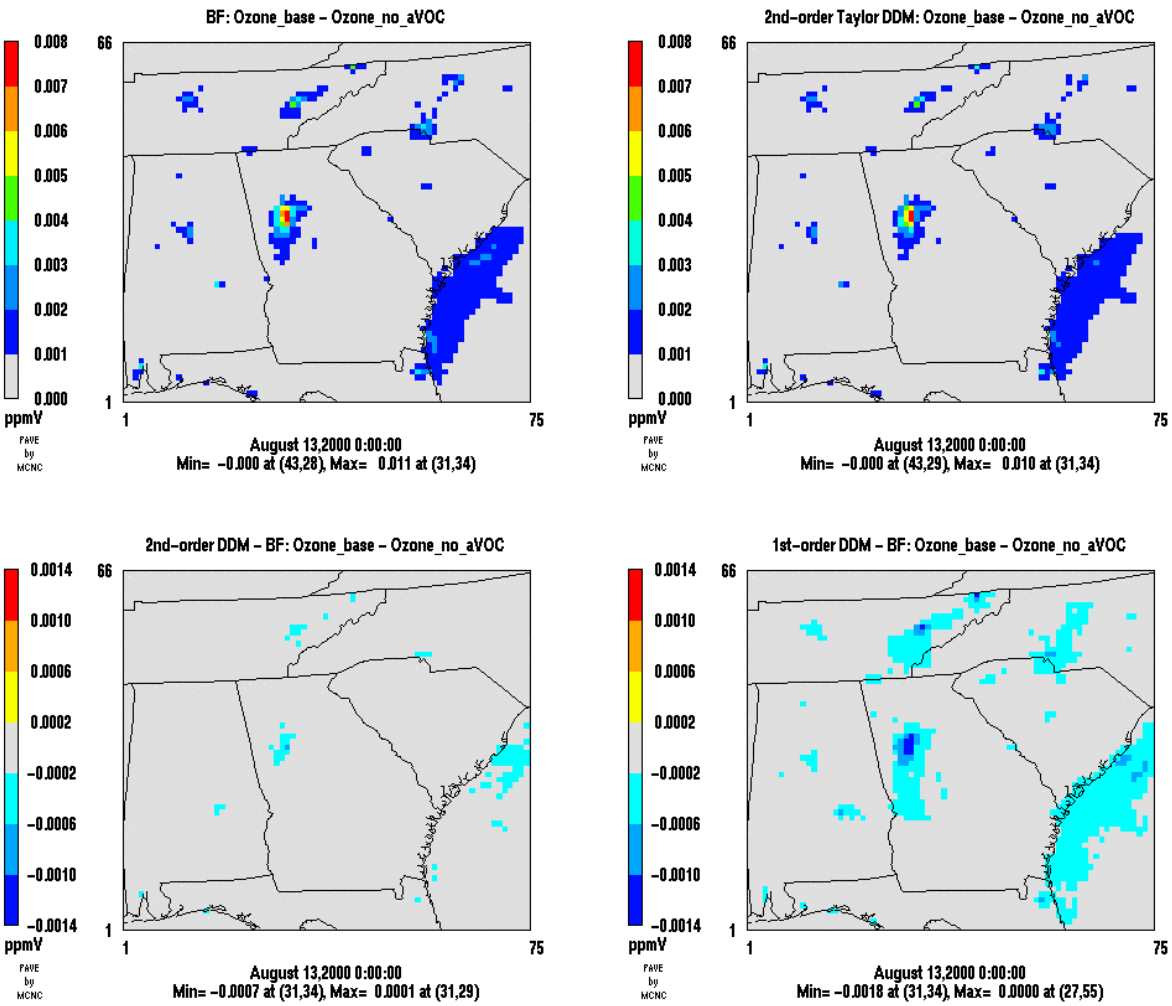

Figure S7: As in Figure S5, for a 100% reduction in anthropogenic VOC emissions.

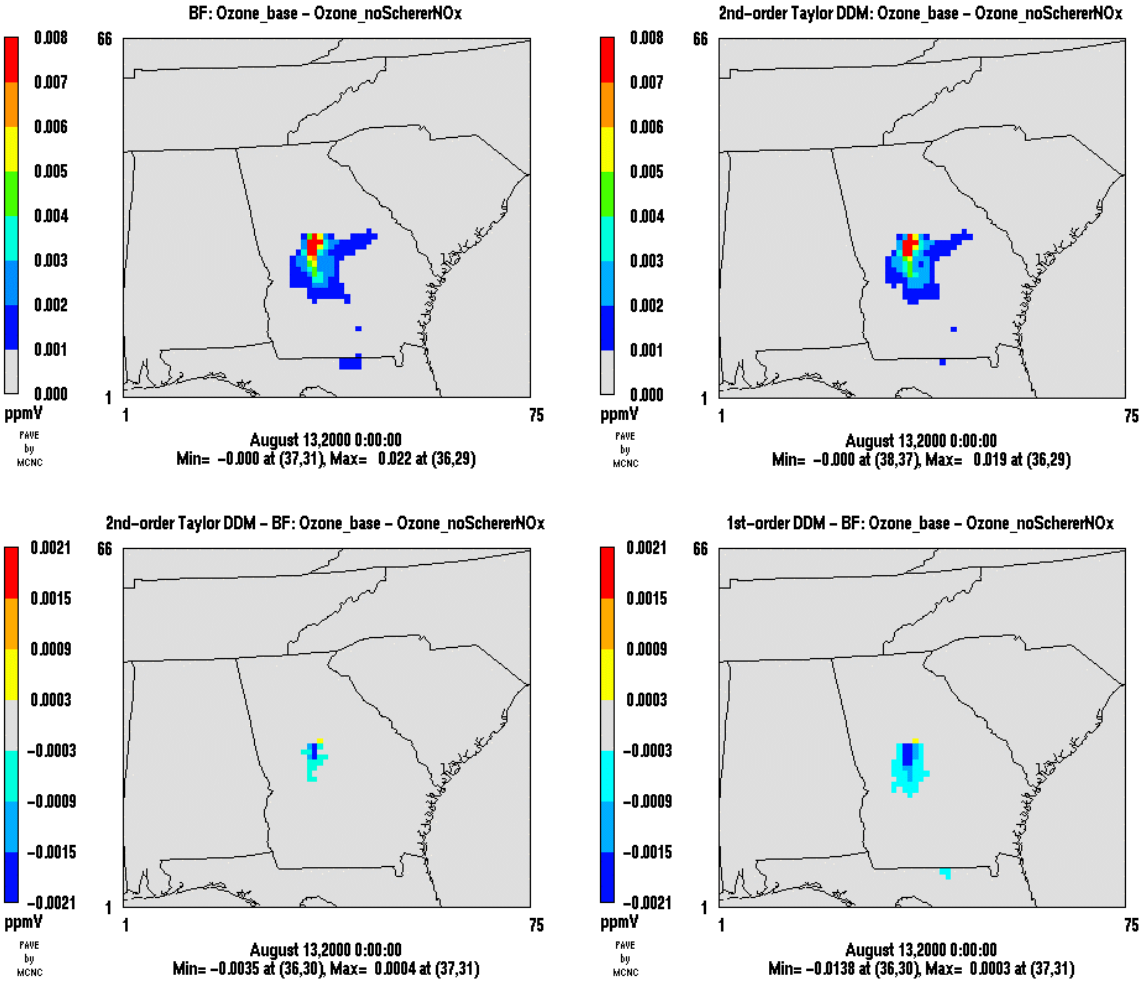

Figure S8: As in Figure S5, for a 100% reduction in Plant Scherer NO_x emissions.